

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/905,027	CRAIGHEAD ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael Trinh	2822	<i>AW</i>

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 11/28/03.
2. ☒ The allowed claim(s) is/are 1-7, 9-18, 20-24, 48 and 49.
3. ☒ The drawings filed on 13 July 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

*Michael Trinh*  
**Michael Trinh**  
**Primary Examiner**

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### **DETAILED ACTION**

\*\*\* This office action is in response to Applicant's Amendment filed on November 28, 2003. Claims 1-7, 9-18, 20-24, and 48-49 are currently pending. Claims were canceled.

#### **Examiner's Amendment**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

IN THE SPECIFICATION: (correct of the year as it is consistent with PTO records)

\*\* Specification page 1, line 4, under the section of "CROSS REFERENCE TO RELATED APPLICATIONS",  
after "60/115,854, filed" change "January 13, 1998" to --January 13, 1999--.

#### ***Allowable Subject Matter***

2. Claims 1-7, 9-18, 20-24, and 48-49 are allowed.

3. The following is a statement of reasons for the indication of allowable subject matter:

Applicant's amendment and convincing remarks of record have overcome the rejections. The references of record, alone or in combination, do not fairly anticipatively disclose each and every aspect of the claimed method, or fairly make a prima facie obvious case of the claimed method, a) in combination with other processing claimed limitations as recited in base claims 1 and 9, the inclusion of depositing a ceiling layer to cover a sacrificial layer, patterning and etching the ceiling layer to form a ridge waveguide intersecting the location of a desired fluid working gap, patterning and etching the ceiling layer to define at least one access hole leading to said sacrificial layer, and removing the sacrificial layer to produce a working gap; b) and in combination with other processing claimed limitations as recited in base claim 23, the inclusion of patterning and etching a substrate to produce a surface having a vertical sidewall intersecting the substrate at the base of the sidewall; depositing a thin film conformal sacrificial layer on the

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substrate and covering the sidewall, removing by an unmasked RIE the thin film sacrificial layer on the sidewall and on the substrate, while leaving said sacrificial wire along said base; depositing a ceiling layer on said substrate and said sidewall and covering said wire; and removing said sacrificial wire to produce a nanochannel between said substrate, sidewall, and ceiling layer; or c) an in combination with other processing claimed limitations as recited in base claim 24, the inclusion of oxidizing the patterned sacrificial silicon layer to reduce the width and height of the sacrificial wire bay consuming silicon from the surface of the wire to form a silicon oxide coating, and removing the sacrificial wire from within said silicon oxide coating to produce a nanochannel.

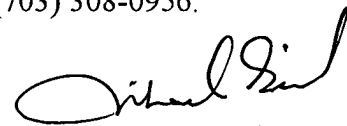
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael M. Trinh whose telephone number is (571) 272-1847. The examiner can normally be reached on M-F: 8:30 Am to 5:00 Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone numbers for the organization where this application proceeding is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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Michael Trinh  
Primary Examiner